

Serial No.: 10/808,232

REMARKS

Claims 1-42 are pending in the present application. The Abstract is amended herein. No new matter is added. In view of the amendments and the following remarks, reconsideration and allowance of the instant application are respectfully requested.

Applicants note with appreciation that the Examiner acknowledges that claims 4 and 23 are directed to allowable subject matter.

The abstract is objected to as including paragraph breaks. The abstract is amended herein to remove the paragraph breaks, and therefore it is respectfully requested that the objection be withdrawn.

Claims 1-3, 8, 9, 11-13, 15, 18, 20-22, 27, 28, 30-32, 34, 35, 37, and 39-42 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,405,284 to Bridge (hereinafter Bridge). Applicants respectfully traverse.

Claim 1 relates to a method for storing data, that includes, distributing a first plurality of groups of logical addresses among one or more storage devices; receiving a second plurality of data-sets containing the data to be stored; *assigning each data-set among the plurality of data-sets a number chosen from a first plurality of different numbers; partitioning each data-set into multiple partitions, so that each partition among the multiple partitions receives a sequential partition number;* assigning each partition within each data-set to be stored at a specific group of logical addresses in accordance with the sequential partition number of the partition and the number assigned to the data-set; and storing each partition at the assigned specific group of logical addresses.

Claim 16 relates to a data storage system that includes: one or more mass-storage devices, coupled to store partitions of data at respective first ranges of logical addresses (LAs); a

Serial No.: 10/808,232

plurality of interim devices, configured to operate independently of one another, each interim device being assigned a respective second range of the LAs and coupled to receive the partitions of data from and provide the partitions of data to the one or more mass-storage devices having LAs within the respective second range; and *one or more interfaces*, which are adapted to receive input/output (IO) requests from host processors, to identify specified partitions of data in response to the IO requests, to convert the IO requests to converted-IO-requests directed to specified LAs in response to the specified partitions of data, and to direct all the converted-IO-requests to the interim device to which the specified LAs are assigned.

The Examiner asserts that Bridge discloses the claimed interface. However, although the word interface appears here in the specification of Bridge, the meaning is completely different. Bridge says: "A logical volume is the basis of the storage interface presented to a client application 130 of storage system 100". In stark contrast, in the present invention, interfaces in the present invention comprise the stripe-cache mapping 228, and is illustrated in figure 14 as interfaces 226.

An interface according to the present invention is enabled to receive input/output (IO) requests from host processors, to identify specified partitions of data in response to the IO requests, to convert the IO requests to converted-IO-requests directed to specified LAs in response to the specified partitions of data, and to direct all the converted-IO-requests to the interim device to which the specified LAs are assigned. The Examiner asserts that this feature is disclosed at column 5, lines 56-62, and column 9, lines 36-36, of Bridge. However, the cited section merely relates to a "root disk group" that can be used to store information describing the entire disk system. The root disk group information identifies all directories that are used to maintain the disk system. In addition, it contains information about logical volumes, disk groups,

Serial No.: 10/808,232

and physical disk drives in disk system 102. Disk headers in the root disk group contain addresses of logical volume directories.

In contrast, the present invention is completely different precisely because the interface distributes the data *only* into the caches, and does not control what happens later on in the disks. Then the caches distribute into the disks that are under their responsibility. In the present invention the caches are configured to operate independently of one another. There is no central database that controls what happens in all disks, but rather each cache controls what happens in its jurisdiction. Bridge discloses a "root disk group" that can be used to store information describing *the entire disk system*, which is avoided in the present invention.

Bridge's system lacks a truly distributed architecture and lacks a mapping similar to that of element 228. In sum, the entire apparatus is different, because in Bridge the distribution is done directly over the disks and in a centralized manner, whereas the present invention provides a distributed system with a two-part distribution scheme that enables devolution of centralized control.

Therefore, since Bridge does not identically disclose or suggest all of the features of claims 1 and 16, Bridge does not anticipate claims 1 and 16.

Each of the other independent claims includes features similar to those discussed above in regard to claims 1 and/or 16, and therefore each of these claims is allowable for at least the same reasons as claims 1 and 16 are allowable.

Each of the dependent claim is allowable for at least the same reasons as their respective base claims are allowable.

Serial No.: 10/808,232

Claims 5, 10, 14, 19, 24, 29, 33, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bridge in view of U.S. Patent Publication No. 2002/0099797 to Merrell et al. (hereinafter Merrell). Applicants respectfully traverse.

The addition of the Merrell fails to cure the critical deficiency discussed above in regard to the independent claims, and therefore each of these claims is allowable for at least the same reasons as their respective base claims is allowable.

Claims 6, 7, 25, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bridge in view of U.S. Patent Publication No. 2003/0005256 to Grossman et al. (hereinafter Grossman). Applicants respectfully traverse.

The addition of the Grossman fails to cure the critical deficiency discussed above in regard to the independent claims, and therefore each of these claims is allowable for at least the same reasons as their respective base claims is allowable.

Claims 17 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bridge in view of U.S. Patent Publication No. 2003/0221063 to Eguchi et al. (hereinafter Eguchi). Applicants respectfully traverse.

The addition of the Eguchi fails to cure the critical deficiency discussed above in regard to the independent claims, and therefore each of these claims is allowable for at least the same reasons as their respective base claims is allowable.

In view of the remarks set forth above, this application is in condition for allowance which action is respectfully requested. However, if for any reason the Examiner should consider this application not to be in condition for allowance, the Examiner is respectfully requested to telephone the undersigned attorney at the number listed below prior to issuing a further Action.

JAN-29-2007 MON 11:36 AM KATTEN MUCHIN ROSENMAN

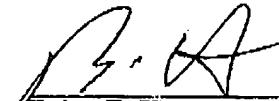
FAX NO. 12129408987

P. 10

Serial No.: 10/808,232

Any fee due with this paper may be charged on Deposit Account 50-1290.

Respectfully submitted,



Brian E. Hennessey
Reg. No. 51,271

CUSTOMER NUMBER 026304

Telephone(212) 940-8800

Fax (212-940-8986

Docket No: ASSIA 21.062 (056730-00073)

BEH:fd